PROCEEDINGS OF THE SEVENTH SCIENTIFIC CONGRESS OF THE TRANSPLANTATION SOCIETY OF AUSTRALIA AND NEW ZEALAND

Basic Mechanisms and Xenografts

Antibody-Induced Rejection of Long-Term, Functioning Pig Proislet Xenografts in CD4+ T-Cell-Depleted Diabetic Mice .................................................. C.J. Simeonovic, R. Ceredig, and J.D. Wilson 2091

The Effect of Continuous Anti-CD4 Monoclonal Antibody Therapy on Fetal Pig Pancreas Xenografts in Nonobese Diabetic Mice .................................................. T.E. Mandel and M. Koulmanda 2093

An Analysis of Concordant Xenograft Rejection in the Nude Rat Model ...... S.M.L. Lim, A. Wee, S.M. Chong, and J.D.G. White 2095


Adhesion of Lymphocytes to Stimulated Vascular Endothelial Cells Occurs Via ICAM1-Dependent and ICAM1-Independent Pathways .................................................. R.J. Faull and G.R. Russ 2099

The Importance of the ICAM-1/LFA-1-Dependent Pathway in In Vitro Cytotoxicity Against Cultured Human Kidney Cells ...... M.G. Suranyi, G.A. Bishop, C. Clayberger, A.M. Krensky, P. Leenaerts, and B.M. Hall 2101

Characterization of the Rat CD26 Antigen ........................................ G.W. McCaughan, J. Wickson, and M.D. Gorrell 2103

A Model of the Corneal Allograft Reaction .... I.G.M. Duguid, R.A. Cuthbertson, R.H. Guymer, K.A. Williams, and T.E. Mandel 2105

Prolongation of Heterotopic Human Corneal Graft Survival in Mice Treated With an Anti-CD4 Monoclonal Antibody .................................................. I.G.M. Duguid, M. Koulmanda, and T.E. Mandel 2107

The Effect on Researchers of Handling Human Fetal Tissue ...... B.E. Tuch, S.M. Dunn, and V. de Vahl Davis 2109

Immunosuppression


Prolongation of Fetal Pancreas Allograft Survival in Mice Treated with Anti-IL-2 Receptor Monoclonal Antibody (PC61) Conjugated with Idarubicin .............. M. Koulmanda, G. Pietersz, I.F.C. McKenzie, and T.E. Mandel 2113

Beneficial Effects of Monoclonal Antibody Targeting of CD4+ Cells During the Sensitisation but not Effector Phase of Accelerated Rejection of Rat Cardiac Allografts ....... W.W. Hancock, T. Sablinski, E.L. Milford, N.L. Tilney, R.C. Atkins, and J.W. Kupiec-Weglinski 2115

Castanospermine, an Alpha Glucosidase Inhibitor, Prolongs Renal Allograft Survival in the Rat P.M. Grochowicz, A.D. Hibberd, K.M. Bowen, D.A. Clark, W.D. Cowden, C.R. Parish, and D.O. Willenborg 2117
CONTENTS

Urocanic Acid in Allotransplantation ........................................ R.H. Guymer and T.E. Mandel 2119
The Interaction of IL-2 and IL-4 With the Effects of Deoxyspergualin .......................... P.G. Kerr and R.C. Atkins 2121
The Effect of 2-Deoxyguanosine on Graft Immunogenicity ............................. H.M. Georgiou and T.E. Mandel 2123
FK 506 and Orthotopic Liver Transplantation in the Rat ................................. H. Isai, D.M. Painter, and A.G.R. Shell 2125

Renal Transplantation

Kidney Preservation With UW Solution: The Nature of the Injury................. V.C. Marshall, P. Jablonski, B.O. Howden, and K. Walls 2131
Comparison of Serological Class II Typing With DNA-DR and DNA-DQ Typing of Kidney Donors and Recipients .............................. J. Trejaut, H. Dunckley, J.S. Sullivan, T. Doran, and J. Chapman 2133
Serial Monitoring Shows Plasma Protein C and Free Protein S Levels Are Decreased During Human Acute Renal Allograft Rejection .... A. Tsuchida, N.M. Thomson, H.H. Salem, R.C. Atkins, and W.W. Hancock 2134
Inhibition of PHA Lymphocyte Responses by Cyclosporine and Methylprednisolone ............. M. Hibbins, R.D.M. Allen, and J.R. Chapman 2137
Increased Frequency of Kidney Allograft Rejection in Recipients With Cyclosporine and/or Steroid-Resistant Lymphoid Responses ........ L.G. Bowes, L.J. Dumble, D.M.A. Francis, I.M. Macdonald, G.J.A. Clunie, and P. Kincaid-Smith 2139

Cardiac Transplantation

Heart/Lung Transplantation in Australia: Early Results of the St Vincent's Program P. Spratt, A.R. Glanville, P. MacDonald, A. Farnsworth, D. Bryant, A. Keogh, and V.P. Chang 2141

Hepatic Transplantation

Complications of Sclerotherapy for Esophageal Varices in Liver Transplant Candidates .................. P. Pillay, T.E. Starzl, and D.H. Van Thiel 2149
Glucose Homeostasis in the Rat After Liver Transplantation .................. P. Jablonski, C.W. Cham, B.O. Howden, A.C. Thomas, and V.C. Marshall 2154
Quadruple-Drug Induction Therapy in Combined Renal and Pancreatic Transplantation—OKT3 Versus ATG

W.-D. Illner, J. Theodorakis, D. Abendroth, S. Schleibner, M. Stangl, R. Landgraf, and W. Land

THE pancreatic allograft rejection remains a major problem in pancreas transplantation. Despite the introduction of cyclosporin and other new immunosuppressive drugs, the incidence of rejection episodes range from 30% to 80%.1,2 We present here our experience with quadruple-drug induction therapy consisting of CS, azathioprine, “high” doses of steroids and antithymocyte globulin (ATG) or OKT3 for a short period of time.

PATIENTS AND METHODS
In a controlled prospective study (March 1988 to July 1989), 20 diabetics were grafted simultaneously with a pancreas and a kidney. We used the occlusion technique in six patients and the bladder drainage in four patients in each group. Recipients’ criteria and number of HLA mean mismatches in both groups were comparable.

Immunosuppressive Protocol
In 10 patients (group I) in addition to triple-drug therapy ATG in a dosage of 4 mg/kg body weight was used. In group II, OKT3 (5 mg/d) was added to the standard regimen. ATG and OKT3 were given for 10 days (Table 1).

Antirejection Therapy
The first rejection episode was treated with 250 mg methylprednisolone for 3 days. The second and third rejection crises were treated with ATG or OKT3 for 7 days. Patients that received ATG as induction therapy were treated with OKT3 and vice versa.

Table 1. Quadruple-Drug Induction Therapy in Pancreatic Transplantation (ATG vs OKT3)

<table>
<thead>
<tr>
<th>Drug</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cyclosporin</td>
<td>1 mg/kg body weight for 24 h per infusion (blood levels, 100 ng/mL), switch to oral medication as soon as possible (6-10 mg/kg body weight)</td>
</tr>
<tr>
<td>Azathioprine</td>
<td>1-2 mg/kg body weight/d</td>
</tr>
<tr>
<td>ATG</td>
<td>4 mg/kg body weight for 10 d</td>
</tr>
<tr>
<td>or OKT3</td>
<td>5 mg/d for 10 d</td>
</tr>
<tr>
<td>Steroids</td>
<td>500 mg intraoperatively, reduced to maintenance dose of 30 mg/d within 1 wk</td>
</tr>
</tbody>
</table>

RESULTS
In total a pancreatic allograft rejection was observed in 10 of 20 patients (5 in each group). In both groups one pancreatic graft was lost due to an irreversible rejection. A second pancreatic graft loss for an unknown reason was observed in the OKT3-treated group (Table 2). Kidney graft rejection was observed in four patients in the ATG group and in five patients in the OKT3 group. All

Fig 1. Pancreatic graft survival probability estimated by Cuttler/Ederer using ATG or OKT3.
Table 2. Pancreatic Graft Losses

<table>
<thead>
<tr>
<th></th>
<th>ATG</th>
<th>OKT3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Immunological failure</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Patient death*</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Unknown</td>
<td></td>
<td>1</td>
</tr>
</tbody>
</table>

*None of the patients’ death was due to the immunosuppressive protocol.

Kidney graft rejection episodes were reversible with antirejection therapy.

Six of 20 patients showed a parallel rejection episode in both organs (three in each group). The rate of infection complications was 60% in the ATG group and 40% in the OKT3 group (one life-threatening event in each group). One patient death (arrosion bleeding) occurred in each group.

Patient and kidney survival probability rate is 90% in both groups. Pancreas survival probability is 60% in the OKT3 group and 80% in the ATG group. The difference is not statistically significant (Fig 1).

CONCLUSIONS

1. Quadruple-drug induction therapy using ATG or OKT3 provides an effective immunosuppression with excellent graft survival and function.
2. In our study the use of the monoclonal antibody OKT3 did not provide an advantage over the use of a polyclonal antithymocyte sera regarding rejection episodes.
3. The infection rate was high, but did not differ in either group.
4. The small number of patients in each group does not allow final conclusions as to whether or not monoclonal antisera are better than polyclonal antisera. Both sera are optimal for treatment of acute rejection episodes.

REFERENCES